If there are 300 calories in 100 g of a certain food, how many calories are there in a 30 g portion of this food?

A. 90

B. 100

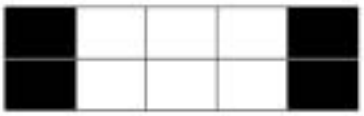
C. 900

D. 1000

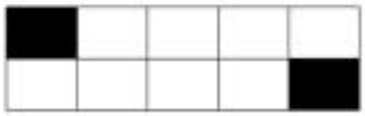
E. 9000

Which picture shows that $\frac{2}{5}$ is equivalent to $\frac{4}{10}$?

A.



B.



C.

D.

B10

Which of these is the smallest number?

A. 0.625

B. 0.25

C. 0.375

D. 0.5

E. 0.125

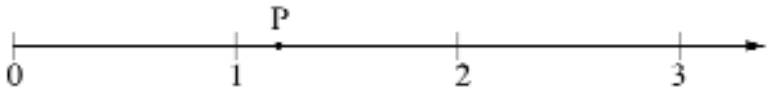
Which of these fractions is smallest?

A. $\frac{1}{6}$

B. $\frac{2}{3}$

C. $\frac{1}{3}$

D. $\frac{1}{2}$



What is the best estimate of the number corresponding to P?

A. 1.1

B. 1.2

C. 1.4

D. 1.5

A runner ran 3000 m in exactly 8 minutes. What was his average speed in meters per second?

A. 3.75

B. 6.25

C. 16.0

D. 37.5

E. 62.5

Which of these numbers is between 0.07 and 0.08?

A. 0.00075

B. 0.0075

C. 0.075

D. 0.75

F12

What fraction of the circle is shaded?

A. Between 0 and $\frac{1}{4}$

B. Between $\frac{1}{4}$ and $\frac{1}{2}$

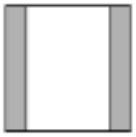
C. Between $\frac{1}{2}$ and $\frac{3}{4}$

D. Between $\frac{3}{4}$ and 1

Which shows $\frac{2}{3}$ of the square shaded?

A. 

B. 

C. 

D. 

E. 

The sum 691 + 208 is closest to the sum

A. 600 + 200

B. 700 + 200

C. 700 + 300

D. 900 + 200

Divide: $\frac{6}{55} \div \frac{3}{55}$ =

Answer: _____

Divide $0.003\overline{)15.45}$

A. 0.515

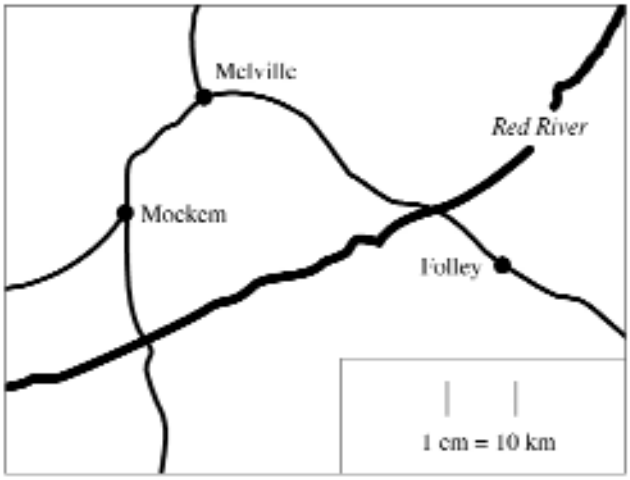
B. 5.15

C. 51.5

D. 515

E. 5150

On the map, 1 cm represents 10 km on the land.



On the land, about how far apart are the towns Melville and Folley?

A. 5 km

B. 30 km

C. 40 km

D. 50 km

The car is 3.5 m long. About how long is the building?

A. 18 m

B. 14 m

C. 10 m

D. 4 m

Which number is two hundred six and nine-tenths?

A. 206.09

B. 206.9

C. 206.910

D. 2006.9

What is the value of $\frac{4}{5} - \frac{1}{3} - \frac{1}{15}$?

A. $\frac{1}{5}$

B. $\frac{2}{5}$

C. $\frac{7}{15}$

D. $\frac{3}{4}$

E. $\frac{4}{5}$

A company produced 17,175 cars in 1996. For a report, this number was rounded to the nearest hundred. Which was the number of cars given in the report?

A. 17,000

B. 17,100

C. 17,200

D. 17,270

In which list of fractions are all of the fractions equivalent?

A. $\frac{1}{2}$, $\frac{2}{4}$, $\frac{4}{6}$

B. $\frac{2}{3}$, $\frac{4}{6}$, $\frac{8}{12}$

C. $\frac{2}{5}$, $\frac{4}{10}$, $\frac{8}{50}$

D. $\frac{3}{4}$, $\frac{4}{6}$, $\frac{6}{8}$

Penny had a bag of marbles. She gave one-third of them to Rebecca, and then one-fourth of the remaining marbles to John. Penny then had 24 marbles left in the bag. How many marbles were in the bag to start with?

A. 36

B. 48

C. 60

D. 96

A painter had 25 L of paint. He used 2.5 L of paint every hour. He finished the job in 5.5 hours. How much paint did he have left?

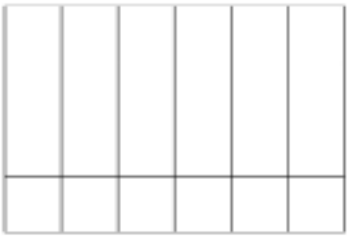
A. 10.25 L

B. 11.25 L

C. 12.75 L

D. 13.75 L

Shade in $\frac{3}{8}$ of the unit squares in the grid.



P13

There are 68 rows of cars in a parking lot. Each row has 92 cars. Which of these would give the closest estimate of the total number of cars in the parking lot?

A. 60 x 90 = 5400

B. 60 x 100 = 6000

C. 70 x 90 = 6300

D. 70 x 100 = 7000

Sound travels at approximately 330 meters per second. The sound of an explosion took 28 seconds to reach a person. Which of these is the closest estimate of how far away the person was from the explosion?

A. 12,000 m

B. 9,000 m

C. 8,000 m

D. 6,000 m

P15

Robin and Jim took cherries from a basket. Robin took $\frac{1}{3}$ of the cherries and Jim took $\frac{1}{6}$ of the cherries. What fraction of the cherries remained in the basket?

A. $\frac{1}{2}$

B. $\frac{1}{3}$

C. $\frac{1}{6}$

D. $\frac{1}{18}$

Write 0.48 as a fraction reduced to its lowest terms.

Answer: _____

Subtract: 4.722 – 1.935 =

A. 2.787

B. 2.797

C. 2.887

D. 2.897

The total weight of a pile of 500 salt crystals is 6.5 g. What is the average weight of a salt crystal?

A. 0.0078 g

B. 0.013 g

C. 0.0325 g

D. 0.078 g

R13

Subtract: 7003
– 4078

A. 2035

B. 2925

C. 3005

D. 3925

Laura had $240. She spent $\frac{5}{8}$ of it. How much money did she have left?

Answer: _____

John sold 60 magazines and Mark sold 80 magazines. The magazines were all sold for the same price. The total amount of money received for the magazines was $700. How much money did Mark receive?

Answer: _____

A book publisher sent 140 copies of a certain book to a bookstore. The publisher packed the books in two types of boxes. One type of box held 8 copies of the book, and the other type of box held 12 copies of the book. The boxes were all full, and there were equal numbers of both types of boxes.

a) How many boxes holding 12 books were sent to the bookstore?

Answer: _____

b) What fraction of the books sent to the bookstore were packed in the smaller boxes?

Answer: _____

A sheet of paper is 0.012 cm thick. Of the following, which would be the height of a stack of 400 sheets of this paper?

A. 0.048 cm

B. 0.48 cm

C. 4.8 cm

D. 48 cm

The height of a boy was reported as 140 cm. The height had been rounded to the nearest 10 cm. What are two possibilities for the boy's actual height?

Answer: _____ cm and _____ cm

In making a garden fertilizer, a gardener mixes 2 kg of a nitrate, 3 kg of a phosphate, and 6 kg of potash. What is the ratio of nitrate to the total amount of fertilizer?

A. $\frac{11}{9}$

B. $\frac{2}{3}$

C. $\frac{2}{9}$

D. $\frac{2}{11}$

n is a number. When *n* is multiplied by 7, and 6 is then added, the result is 41. Which of these equations represents this relation?

A. $7n + 6 = 41$

B. $7n \pm 6 = 41$

C. $7n \times 6 = 41$

D. $7(n + 6) = 41$

If the ratio 7 to 13 is the same as the ratio x to 52, what is the value of x?

A. 7

B. 13

C. 28

D. 364

D10

The cost, C, of printing greeting cards consists of a fixed charge of 100 cents and a charge of 6 cents for each card printed. Which of these equations can be used to determine the cost of printing n cards?

A. $C = (100 + 6n)$ cents

B. $C = (106 + n)$ cents

C. $C = (6 + 100n)$ cents

D. $C = (106n)$ cents

E. $C = (600n)$ cents

F11

If 4 times a number is 48, what is $\frac{1}{3}$ of the number?

A. 4

B. 8

C. 12

D. 16

The table shows a relation between x and y.

x	2	3	4	5
y	7	10	13	16

Which of these equations expresses this relation?

A. $y = x + 5$

B. $y = x \pm 5$

C. $y = \frac{1}{3}(x \pm 1)$

D. $y = 3x + 1$

□ represents the number of magazines that Lina reads each week. Which of these represents the total number of magazines that Lina reads in 6 weeks?

A. $6 + \square$

B. $6 \times \square$

C. $\square + 6$

D. $(\square + \square) \times 6$

The table represents a relation between x and y.

What is the missing number in the table?

A. 9

B. 10

C. 11

D. 12

E. 13

x	y
2	5
3	7
4	?
7	15

In a sequence of starts and stops, an elevator travels from the first floor to the fifth floor and then to the second floor. From there, the elevator travels to the fourth floor and then to the third floor. If the floors are 3 m apart, how far has the elevator traveled?

A. 18 m

B. 27 m

C. 30 m

D. 45 m

The table represents a relation between x and y.

Which of the following equations could represent the same relation?

x	y
1	1
2	4
3	7
4	10

A. $y = 2x + 2$

B. $y = 2x - 1$

C. $y = 3x + 2$

D. $y = 3x + 1$

E. $y = 3x - 2$

The table shows some values of x and y, where x is proportional to y.

x	4	8	Q
y	9	P	45

What are the values of P and Q?

A. $P = 40$ and $Q = 13$

B. $P = 18$ and $Q = 17$

C. $P = 20$ and $Q = 18$

D. $P = 40$ and $Q = 18$

E. $P = 18$ and $Q = 20$

Find the value of x if $12x - 10 = 6x + 32$

Answer: _____

If $x = 3$, what is the value of $\frac{5x + 3}{4x - 3}$?

Answer: _____

Which of these expressions is equivalent to $n \times n \times n$ for all values of n?

A. $\frac{n}{3}$

B. $n + 3$

C. $3n$

D. n^3

For all numbers k,
$k + k + k + k + k$ can be written as

A. $k + 5$

B. $5k$

C. k^5

D. $5(k + 1)$

Which of the following is true when a, b, and c are different real numbers?

A. $a - b = b - a$

B. $a(b - c) = b(c - a)$

C. $b - c = c - b$

D. $ab = ba$

E. $ab - c = ab - b$

If k represents a negative number, which of these is a positive number?

A. k^2

B. k^3

C. $2k$

D. $\frac{k}{2}$

A club has 86 members, and there are 14 more girls than boys. How many boys and how many girls are members of the club?

Show your work.

The figures show four sets consisting of circles.

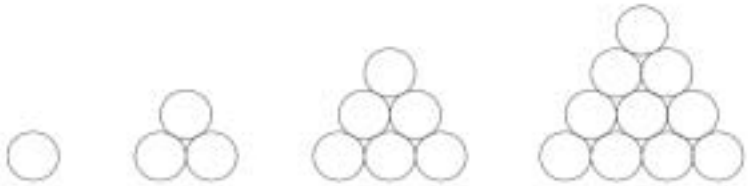


Figure 1 Figure 2 Figure 3 Figure 4

a) Complete the table below. First, fill in how many circles make up Figure 4. Then, find the number of circles that would be needed for the 5th figure if the sequence of figures is extended.

Figure	Number of circles
1	1
2	3
3	6
4	
5	

b) The sequence of figures is extended to the 7th figure. How many circles would be needed for Figure 7?

Answer: _____

c) The 50th figure in the sequence contains 1275 circles. Determine the number of circles in the 51st figure. Without drawing the 51st figure, explain or show how you arrived at your answer.

What units would be best to use to measure the weight (mass) of an egg?

A. centimeters

B. milliliters

C. grams

D. kilograms

F10

Using a centimeter ruler like this one, you can measure accurately to the nearest

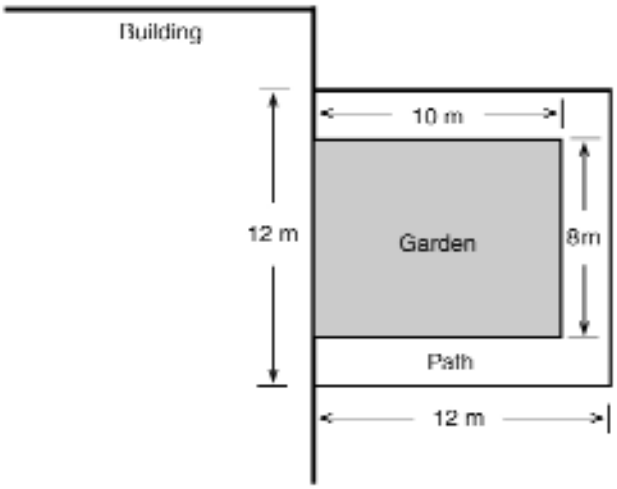
A. millimeter

B. half-millimeter

C. centimeter

D. half-centimeter

A rectangular garden that is next to a building has a path around the other three sides, as shown.



What is the area of the path?

A. 144 m^2

B. 64 m^2

C. 44 m^2

D. 16 m^2

Four girls measured the length of their paces. The chart shows their measurements.

Name	Length of Pace
Polly	80 cm
Maria	65 cm
Helen	75 cm
Susan	60 cm

Who would take the most paces in walking from one end of a hallway to the other?

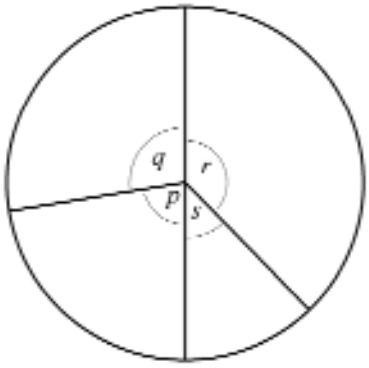
A. Polly

B. Maria

C. Helen

D. Susan

Which angle in the figure has a measure closest to 45°?



A. p

B. q

C. r

D. s

The rectangle below is twice as long as it is wide.

What is the ratio of the width of the rectangle to its perimeter?

A. $\frac{1}{2}$

B. $\frac{1}{3}$

C. $\frac{1}{4}$

D. $\frac{1}{6}$

If the string in the diagram is pulled straight, which of these is closest to its length?

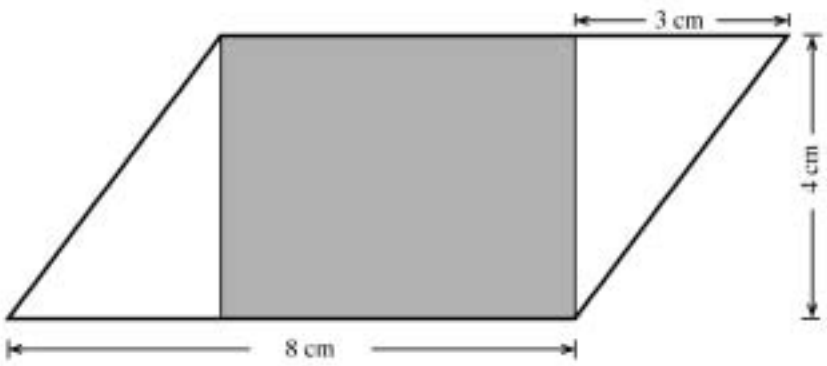
A. 5 cm

B. 6 cm

C. 7 cm

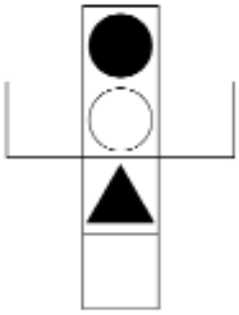
D. 8 cm

The figure shows a shaded rectangle inside a parallelogram.



What is the area of the shaded rectangle?

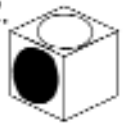
Answer: _____

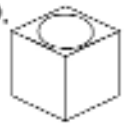


Which of these cubes could be made by folding the figure above?

A. 

B. 

C. 

D. 

The line m is a line of symmetry for figure $ABCDE$.

The measure of angle BCD is

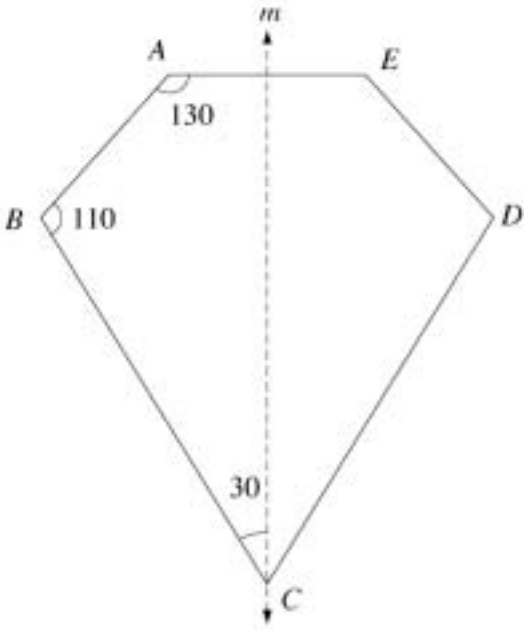
A. 30°

B. 50°

C. 60°

D. 70°

E. 110°



J11

Of the following, which is NOT true for all rectangles?

A. The opposite sides are parallel.

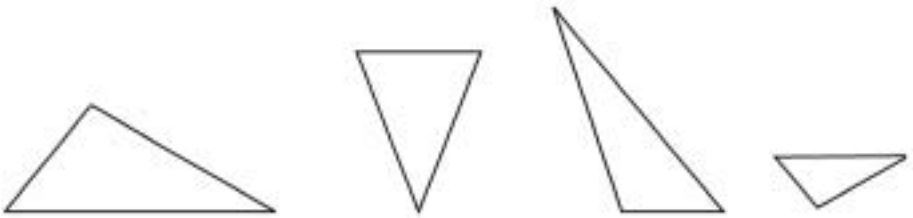
B. The opposite sides are equal.

C. All angles are right angles.

D. The diagonals are equal.

E. The diagonals are perpendicular.

Two of the triangles below are similar.



I II III IV

Which two triangles are similar?

A. I and II

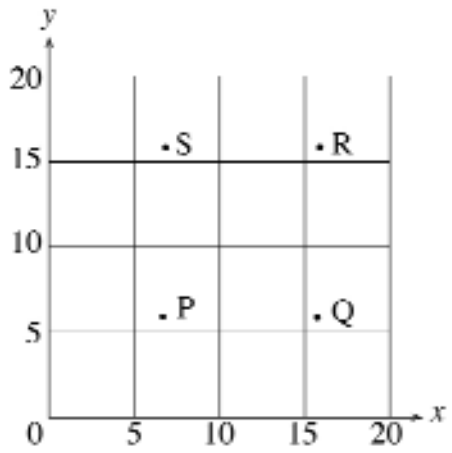
B. I and III

C. I and IV

D. II and IV

E. III and IV

Which point on the graph could have coordinates (7,16)?



A. Point P

B. Point Q

C. Point R

D. Point S

In a quadrilateral, each of two angles has a measure of 115°. If the measure of a third angle is 70°, what is the measure of the remaining angle?

A. 60°

B. 70°

C. 130°

D. 140°

E. None of the above

Point P (not shown) on the number line is 5 units from point N and 2 units from point M.

Where is point P located?

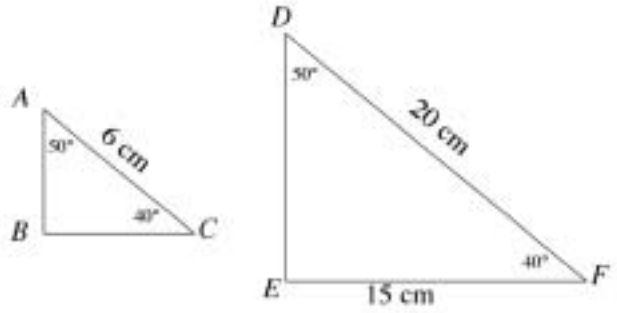
A. Between O and L

B. Between L and M

C. Between M and N

D. To the right of N

The figure represents two similar triangles. The triangles are not drawn to scale.



In the actual triangle ABC, what is the length of side BC?

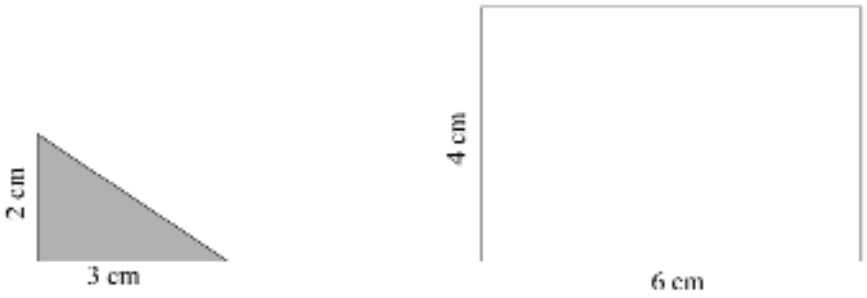
A. 3.5 cm

B. 4.5 cm

C. 5 cm

D. 5.5 cm

E. 8 cm



How many of the shaded right triangles shown above are needed to exactly cover the surface of the rectangle?

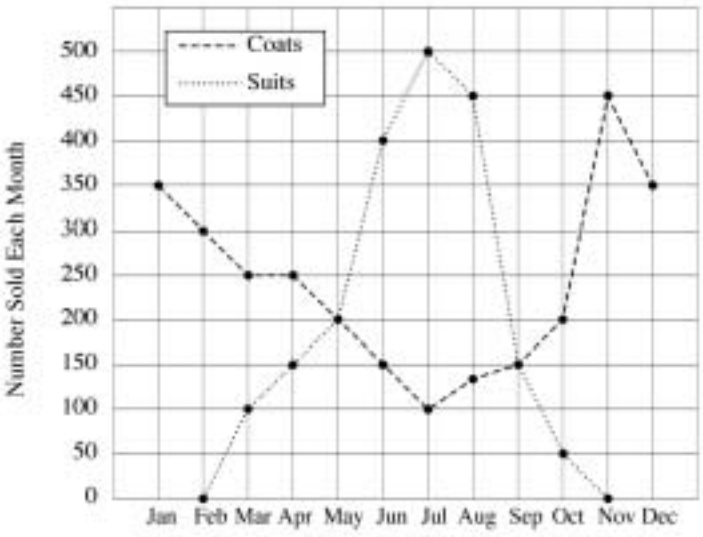
A. Four

B. Six

C. Eight

D. Ten

This graph shows the number of suits and coats sold each month.



According to the information in the graph, during which two-month period does the greatest increase in coat sales occur?

A. December - January

B. May - June

C. June - July

D. October - November

If a fair coin is tossed, the probability that it will land heads up is $\frac{1}{2}$.
In four successive tosses, a fair coin lands heads up each time.
What is likely to happen when the coin is tossed a fifth time?

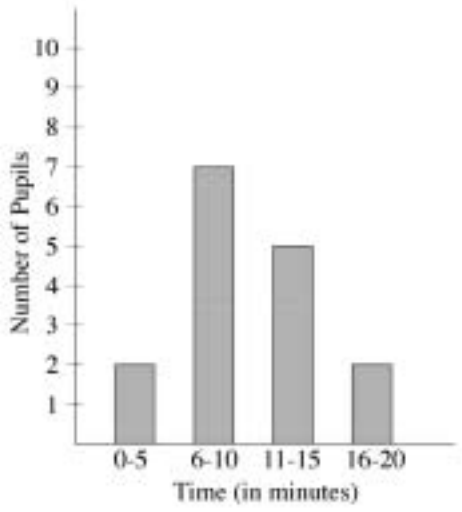
A. It is more likely to land tails up than heads up.

B. It is more likely to land heads up than tails up.

C. It is equally likely to land heads up or tails up.

D. More information is needed to answer the question.

The graph shows the time of travel by pupils from home to school.



How many pupils must travel for MORE than 10 minutes?

A. 2

B. 5

C. 7

D. 8

E. 15

From a batch of 3,000 light bulbs, 100 were selected at random and tested. If 5 of the light bulbs in the sample were found to be defective, about how many defective light bulbs would be expected in the entire batch?

A. 15

B. 60

C. 150

D. 300

E. 600

The table shows the number of houses on two streets of a town, Konini Street and Rimu Street.

Street	Number of Houses
Konini	30
Rimu	21

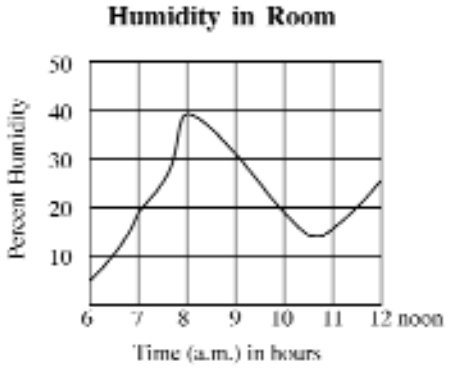
The pictograph below represents the number of houses in each street.

Konini St.	
Rimu St.	

How many houses does one  represent?

Answer: _____

The graph below shows the humidity in a room as recorded on a certain morning.



On the morning shown in the graph, how many times between 6 a.m. and 12 noon was the humidity exactly 20 percent?

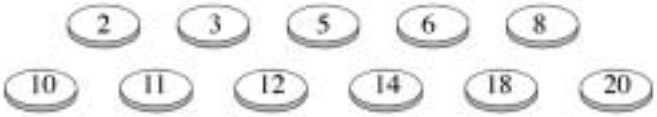
A. One

B. Two

C. Three

D. Four

The eleven chips shown below are placed in a bag and mixed.



Chelsea draws one chip from the bag without looking. What is the probability that Chelsea draws a chip with a number that is a multiple of three?

A. $\frac{1}{11}$

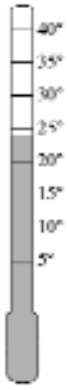
B. $\frac{1}{3}$

C. $\frac{4}{11}$

D. $\frac{4}{7}$

This table shows temperatures at various times on four days.

TEMPERATURE					
	6 a.m.	9 a.m.	Noon	3 p.m.	6 p.m.
Monday	15°	17°	24°	21°	16°
Tuesday	20°	16°	15°	10°	9°
Wednesday	8°	14°	16°	19°	15°
Thursday	8°	11°	19°	26°	20°



Thermometer

On which day and at what time was the temperature shown in the table the same as that shown on the thermometer?

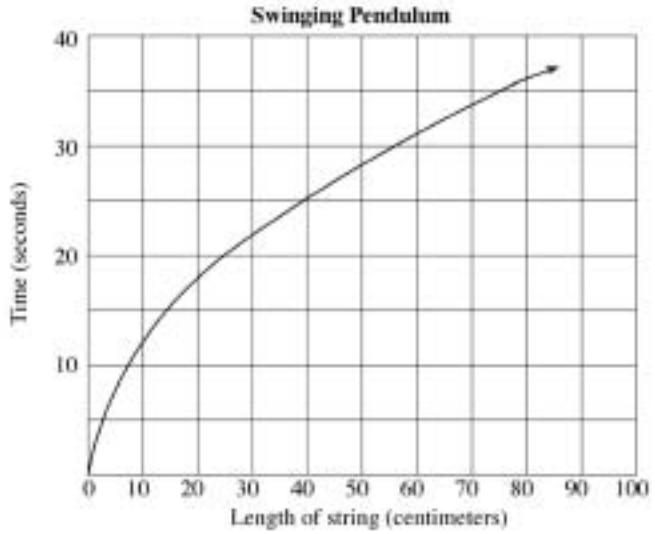
A. Monday, Noon

B. Tuesday, 6 a.m.

C. Wednesday, 3 p.m.

D. Thursday, 3 p.m.

The graph shows the time taken for a pendulum to swing backwards and forwards 20 times for different lengths of the string.



The length of a string is 90 cm. About how long would it take for the pendulum to swing backwards and forwards 20 times?

A. 35 seconds

B. 38 seconds

C. 42 seconds

D. 45 seconds

Chris plans to order 24 issues of a magazine. He reads the following advertisements for two magazines. *Ceds* are the units of currency in Chris' country.

Teen Life Magazine

24 issues
First four issues FREE
The rest
3 *ceds* each.

Teen News Magazine

24 issues
First six issues FREE
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